

Subpart D—Certification of Compliance With or Inapplicability of Federal Motor Vehicle Safety Standards

§ 663.41 Certification of compliance with Federal motor vehicle safety standards.

If a vehicle purchased under this part is subject to the Federal Motor Vehicle Safety Standards issued by the National Highway Traffic Safety Administration in part 571 of this title, a recipient shall keep on file its certification that it received, both at the pre-award and post-delivery stage, a copy of the manufacturer's self-certification information that the vehicle complies with relevant Federal Motor Vehicle Safety Standards.

§ 663.43 Certification that Federal motor vehicle standards do not apply.

(a) Except for rolling stock subject to paragraph (b) of this section, if a vehicle purchased under this part is not subject to the Federal Motor Vehicle Safety Standards issued by the National Highway Traffic Safety Administration in part 571 of this title, the recipient shall keep on file its certification that it received a statement to that effect from the manufacturer.

(b) This subpart shall not apply to rolling stock that is not a motor vehicle.

PART 665—BUS TESTING

Subpart A—General

- Sec.
- 665.1 Purpose.
- 665.3 Scope.
- 665.5 Definitions.
- 665.7 Grantee certification of compliance.

Subpart B—Bus Testing Procedures

- 665.11 Testing requirements.
- 665.13 Test report and manufacturer certification.

Subpart C—Operations

- 665.21 Scheduling.
- 665.23 Fees.
- 665.25 Transportation of vehicle.
- 665.27 Procedures during testing.

APPENDIX A TO PART 665—TESTS TO BE PERFORMED AT THE BUS TESTING FACILITY

AUTHORITY: Federal Transit Act of 1964, as amended, 49 U.S.C. 1601 *et seq.*, 1608(h); section 317, Surface Transportation and Uniform Relocation Assistance Act of 1987; and 49 CFR 1.51.

SOURCE: 57 FR 33397, July 28, 1992, unless otherwise noted.

Subpart A—General

§ 665.1 Purpose.

An applicant for Federal financial assistance under the Federal Transit Act for the purchase or lease of buses with funds obligated by the FTA after September 30, 1989, must certify to the FTA that any new bus model acquired with such assistance has been tested in accordance with this part. This part contains the information necessary for a recipient to ensure compliance with this provision.

§ 665.3 Scope.

(a) This part applies to a recipient of Federal financial assistance under sections 3, 9, 16(b)(2), or 18 of the FT Act, and, except as provided in subsections (b), (c), and (d) is effective October 1, 1989;

(b) The provisions of section 665.11(e)(3) are effective November 8, 1990;

(c) The provisions in sections 665.11 (c), (d), and (f) concerning partial testing are effective August 27, 1992; and

(d) The provisions in §§ 665.11(e) (4) and (5) concerning the last two categories of buses which must be tested, apply as follows:

(1) For vehicles that are manufactured from modified mass-produced chassis or vans, or manufactured from non-mass-produced chassis or vans, testing and a final report will be required for all vehicles offered in response to advertisements for bids or requests for proposals issued on or after June 1, 1994.

(2) For vehicles manufactured from unmodified mass-produced chassis, testing and a final report will be required for all vehicles offered in response to advertisements for bids or requests for proposals issued on or after October 1, 1994.

[57 FR 33397, July 28, 1992, as amended at 58 FR 10990, Feb. 23, 1993; 58 FR 58733, Nov. 3, 1993]

§ 665.5 Definitions.

As used in this part—

Administrator means the Administrator of the Federal Transit Administration or designee.

Bus means a rubber-tired automotive vehicle used for the provision of mass transportation service by or for a recipient.

Bus model means a bus design or variation of a bus design usually designated by the manufacturer by a specific name and/or model number.

Bus testing facility means a testing facility established by renovation of a facility constructed with Federal assistance at Altoona, Pennsylvania, under section 317(b)(1) of the Surface Transportation and Uniform Relocation Assistance Act of 1987, and includes proving ground facilities operated in connection with the facility.

FT Act means the Federal Transit Act, as amended (49 U.S.C. app. 1601 *et seq.*).

Major change in chassis design means, for vehicles manufactured on a mass produced chassis, a change in frame structure, material or configuration, or a change in chassis suspension type.

Major change in components means:

(1) For those vehicles that are not manufactured on a mass produced chassis, a change in a vehicle's engine, axle, transmission, suspension, or steering components;

(2) For those that are manufactured on a mass produced chassis, a change in the vehicle's chassis from one major design to another.

Major change in configuration means a change which may have a significant impact on vehicle handling and stability, or structural integrity.

Mass produced van or chassis means a van or chassis that has or is projected to have an annual production rate of 20,000 or more units.

Mass transportation service means the operation of a vehicle which provides general or special service to the public on a regular and continuing basis.

Modified mass-produced chassis or van means a vehicle that is manufactured from an incomplete, partially assembled mass-produced chassis or van as provided by an OEM to a small bus manufacturer. This includes vehicles whose chassis structure has been modi-

fied to include: The addition of a tandem or tag axle; the installation of a drop or lowered floor; changes to the GVWR from the OEM rating; or other modifications that are *not* made in strict conformance with the OEM's modifications guidelines.

New bus model means a bus model which—

(1) Has not been used in mass transit service in the United States before October 1, 1988; or

(2) Has been used in such service but which after September 30, 1988, is being produced with a major change in configuration or components.

Non-mass-produced chassis or van means a vehicle that is manufactured from an incomplete, partially assembled chassis or van as provided by an OEM to a secondary small bus manufacturer, and where the annual production rate of the OEM chassis or van is less than 20,000 units.

Original Equipment Manufacturer (OEM) means the original manufacturer of a chassis or van supplied as a complete or incomplete vehicle to a small bus manufacturer.

Partial testing means the performance of those bus tests which may yield significantly different data from that obtained in previous bus testing conducted at the bus testing facility.

Recipient means an entity which receives funds under sections 3, 9, 16(b)(2), or 18 of the FT Act, either directly from FTA or through a State administering agency.

Small bus manufacturer means a secondary market assembler that acquires a chassis or van from an original equipment manufacturer for subsequent modification/assembly and sale as 5-year/150,000-mile and/or 4-year/100,000-mile minimum service life vehicles.

Test report means the final document prepared by the operator of the bus testing facility stating the results of the tests performed on each bus.

Unmodified mass-produced chassis means a vehicle that is manufactured from an incomplete, partially assembled mass-produced chassis as provided by an OEM to a small bus manufacturer. This includes vehicles whose chassis structure has either not been modified, or is modified in strict conformance with the OEM's modification

guidelines. The addition of a tandem or tag axle would exclude a bus model from this definition.

Unmodified mass-produced van means a vehicle that is mass-produced, complete and fully assembled as provided by an OEM. This includes vans with raised roofs, and/or wheelchair lifts, or ramps that are installed by the OEM, or by a party other than the OEM provided that the installation of these components is completed in strict conformance with the OEM modification guidelines.

[57 FR 33397, July 28, 1992, as amended at 58 FR 58733, Nov. 3, 1993]

§ 665.7 Grantee certification of compliance.

(a) In each application to the FTA for the purchase or lease of buses, a recipient shall certify that any new bus model, or any bus model with a major change in configuration or components, to be acquired or leased with funds obligated by the FTA after September 30, 1989, will be tested at the bus testing facility, and a test report provided before final acceptance of the first vehicle by the recipient.

(b) It is the responsibility of the recipient in dealing with a manufacturer, to determine whether a vehicle to be acquired is subject to these procedures.

Subpart B—Bus Testing Procedures

§ 665.11 Testing requirements.

(a) A new bus model to be tested at the bus testing facility shall—

- (1) Be a single model;
- (2) Meet all applicable Federal Motor Vehicle Safety Standards, as defined by the National Highway Traffic Safety Administration in part 571 of this title;
- (3) Be substantially fabricated and assembled by techniques and tooling that will be used in production of subsequent buses of that model.

(b) If the new bus model had not been previously tested at the bus testing facility, then the new bus model shall undergo the full tests requirements for maintainability, reliability, safety, performance, structural integrity, fuel economy, and noise;

(c) If the new bus model had not been previously tested at the bus testing facility and is being produced on a mass

produced chassis that has been previously tested on another bus model at the bus testing facility, then the new bus model may undergo partial testing requirements;

(d) If the new bus model had been previously tested at the bus testing facility, then the new bus model may undergo partial testing requirements.

(e) The following vehicle types shall be tested:

(1) Minimum service life of 12 years or 500,000 miles—typified by heavy duty large buses, approximately 35–40 foot, as well as articulated buses.

(2) Minimum service life of ten years or 350,000 miles—typified by heavy duty small buses, approximately 30 foot.

(3) Minimum service life of seven years or 200,000 miles—typified by medium duty mid-size buses, approximately 25–35 foot.

(4) Minimum service life of five years or 150,000 miles—typified by light duty mid-size buses, approximately 25–35 foot.

(5) Minimum service life of four years or 100,000 miles—typified by light duty small buses, cutaways, and modified vans, approximately 16–28 foot.

(f) Tests performed in a higher service life category (*i.e.*, longer service life) need not be repeated when the same bus model is used in lesser service life applications. However, the use of a bus model in a service life application higher than it has been tested for may make the bus subject to the bus testing requirements.

(g) The operator of the facility shall develop a test plan for the testing of vehicles at the facility, which generally follows the guidelines set forth in appendix A of this part.

§ 665.13 Test report and manufacturer certification.

(a) Upon completion of testing, the operator of the facility shall provide a test report to the entity that submitted the bus for testing.

(b)(1) A manufacturer of a new bus model or a bus produced with a major change in component or configuration shall provide a copy of the test report to a recipient during the point in the procurement process specified by the recipient.

§ 665.21

(2) A manufacturer who releases a report under paragraph (b)(1) of this section also shall provide notice to the operator of the facility that the report is available to the public.

(c) If a bus model subject to a test report has a change that is not a major change under this part, the manufacturer shall advise the recipient during the procurement process and shall include description of the change and its basis for concluding that it is not a major change.

(d) A test report shall be available publicly once the owner of the report makes it available during the recipient's procurement process. The operator of the facility will have available for distribution copies of all the publicly available reports.

(e) The test report is the only information or documentation that will be made available publicly in connection with any bus model tested at the facility.

Subpart C—Operations

§ 665.21 Scheduling.

(a) A manufacturer may schedule a vehicle for testing by contacting Penn State's Transportation Institute (PSTI) at the following address: The Pennsylvania State University, Pennsylvania Transportation Institute, Research Building B, University Park, PA 16802, (814) 863-1889.

(b) Upon contacting PSTI, the manufacturer will be provided the following:

- (1) A draft contract for the testing;
- (2) A fee schedule; and

(3) The draft test procedures that will be conducted on the vehicle.

(c) PSTI will provide final test procedures to be conducted on the vehicle at the time of contract execution.

(d) PSTI will process vehicles for testing in the order in which the contracts are signed.

§ 665.23 Fees.

(a) Fees charged by the operator are according to a schedule approved by the FTA, which include different fees for partial testing.

(b) Fees will be prorated for a vehicle withdrawn from the facility before the completion of testing.

49 CFR Ch. VI (10-1-09 Edition)

§ 665.25 Transportation of vehicle.

A manufacturer is responsible for transporting its vehicle to and from the facility at the beginning and completion of the testing.

§ 665.27 Procedures during testing.

(a) The facility operator shall perform all testing, consistent with established procedures at the facility and with the test procedures provided to the manufacturer at the time of contract execution.

(b) The manufacturer of a bus being tested may terminate the test program at any time before the completion of testing, and shall be charged a fee for the tests performed.

(c) The operator shall perform all maintenance and repairs on the test vehicle, consistent with manufacturers specifications, unless the operator determines that the nature of the maintenance or repair is best performed by the manufacturer under the operator's supervision.

(d) The manufacturer may observe all tests. The manufacturer may not provide maintenance or service unless requested to do so by the operator.

APPENDIX A TO PART 665—TESTS TO BE PERFORMED AT THE BUS TESTING FACILITY

The seven tests to be performed on each vehicle are required by STURAA and are based in part on tests described in the FTA report "First Article Transit Bus Test Plan", which is mentioned in the legislative history of section 317. When appropriate, SAE test procedures and other procedures accepted by the transit industry will be used. The seven tests are described in general terms in the following paragraphs.

1. Maintainability

The maintainability test includes bus servicing, preventive maintenance, inspection, and repair. It also will include the removal and reinstallation of the engine and drive train components that would be expected to require replacement during the bus' normal life cycle. Much of the maintainability data will be obtained during the bus durability test at the proving ground. Up to twenty-five percent of the bus life will be simulated and there will be servicing, preventive maintenance, and repair actions. These actions will be done by test facility staff, although manufacturers will be allowed to maintain a representative on site during the testing. Test

facility staff may require a manufacturer to provide vehicle servicing or repair, under the supervision of the facility staff. Since the operator will not become familiar with the detailed design of all new bus models that are tested, tests to determine the time and skill required to remove and reinstall an engine, a transmission, or other major propulsion system components may require advice from the bus manufacturer. All routine and corrective maintenance will be carried out by the test operator in accordance with the manufacturer's specifications.

The maintainability test report will include the frequency, personnel hours, and replacement parts or supplies required for each action during the test. The accessibility of selected components and other observations that could be important to a bus user will be included in the report.

2. Reliability

The question of reliability will be addressed by recording all bus breakdowns during testing. It is recognized that with one test bus it is not feasible to conduct statistical reliability tests. It is anticipated that bus operation on the durability course should reveal the problems that would otherwise not be detected until much later during scheduled transit service. The bus failures, repair time, and the actions required to get the bus back into operation will be recorded in the report.

3. Safety

The safety test will consist of a handling and stability test. The handling and stability test is an obstacle avoidance or double-lane change test that will be performed at the proving ground. The double-lane change course will be different for each type of bus and the speed could be different for each type of bus. Coach speed will be held constant throughout a given test run. Individual test runs will be made at increasing speeds up to 45 mph or until the coach can no longer be operated safely over the course, whichever speed is lower. Both left-and-right-hand lane changes will be tested.

4. Performance

The performance test will be performed on the proving ground and will measure acceleration and gradeability with the test vehicle operated at seated load weight. Top speed also will be measured if it can be done safely on the track. The test will be performed using a fifth wheel or equivalent and associated instrumentation. The bus will be accelerated at full throttle from standstill to maximum safe speed on the track. The report will include a table of time required to accelerate to each 10 mph increment of speed and when possible, the top speed. The gradeability capabilities will be calculated

both from the test data and a test from a dead stop on a minimum of a 15 percent grade.

5. Structural Integrity

Two different structural integrity tests will be performed. Structural strength and distortion tests will be performed at the testing facility in Altoona and structural durability tests will be performed at the proving ground.

a. Structural Strength and Distortion Tests

(1) The structural strength and distortion tests will be conducted and will be different for each type of bus. For example, a shake-down of the bus structure will be conducted by loading and unloading the bus no more than three times with a distributed load equal to 2.5 times gross load. The bus then will be loaded with a distributed load to gross vehicle weight. (Gross vehicle weight is a curb weight plus gross load.) Increase in floor deflection will be measured as the bus weight is increased from curb weight to gross vehicle weight. Then the bus will be loaded with a distributed load equal to 2.5 times gross load. The bus then will be unloaded and inspected for any permanent deformation on the floor or coach structure.

(2) The bus will be loaded to gross vehicle weight, with one wheel on top of a 6-inch-high curb and then in a 6-inch-deep pot hole. This test will be repeated for all four wheels. The test will verify: (a) Normal operation of the steering mechanism and (b) Operability of all passenger doors, passenger escape mechanisms, windows, and service doors. In addition, a water leak test will be conducted.

(3) Using a load-equalizing towing sling, a static tension load equal to 1.2 times the bus curb weight will be applied to the bus towing fixtures (front and rear). The load will be removed and the two eyes and adjoining structure will be inspected for damages or permanent deformations.

(4) The bus at curb weight will be towed with a heavy wrecker truck for several miles after which it will be inspected for structural damage or permanent deformation.

(5) With the bus at curb weight probable damages due to tire deflating and jacking will be tested.

(6) With the bus at curb weight possible damages or deformation associated with lifting the bus on a two post hoist system or supporting it on jack stands will be assessed.

b. Structural Durability

The structural durability test also will be different for each type of bus, but all tests will be performed on the durability course at the proving ground, simulating up to twenty-five percent of the vehicle's normal service life. During the test there will be inspections of the bus structure and the mileage

Pt. 665, App. A

and identification of possible structural anomalies.

6. Fuel Economy

This test will be run to determine the fuel economy in miles per gallon or equivalent of the new bus models. The test will be run at seated load weight on a duty cycle that simulates transit service for the type of vehicle being tested. The fuel measurement devices under consideration include volumetric, gravimetric, flow and pressure.

This fuel economy test bears no relation to the calculations done by the Environmental

49 CFR Ch. VI (10-1-09 Edition)

Protection Agency (EPA) to determine fuel economy levels for the Corporate Average Fuel Economy Program. However, the test will provide data which can be used by recipients in their purchase decisions.

7. Noise

There will be two noise tests: a. Interior noise and vibration; and b. Exterior noise. It is recognized that different levels of noise are expected and acceptable with different types of vehicles and different test procedures might be required.